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PRE-APPEAL BRIEF REQUEST FOR REVIEW	Docket Number 119508-00102	
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)] on Signature Typed or printed name	Application Number 10/767,190	Filed January 30, 2004
	First Named Inventor William SETTER et al.	
	Art Unit 3721	Examiner N. C. Chukwurah

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s)
    Note: No more than five (5) pages may be provided.

I am the

☐ Applicant/inventor

☐ Assignee of record of the entire interest
    See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)

☒ Attorney or agent of record
    Registration number 46,510

☐ Attorney or agent acting under 37 CFR 1.34
    Registration number if acting under 37 CFR 1.34

Tara L. Hoffman
Signature

Tara L. Hoffman
Typed or printed name

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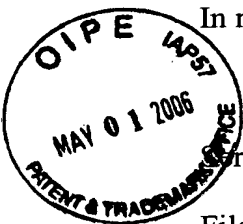Telephone number

May 1, 2006
Date

Note: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☐ *Total of _____ forms are submitted.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	:	PATENT
William SETTER et al.	:	Confirmation No. 4584
Serial No.: 10/767,190	:	Docket No. 119508-00102
Filed: January 30, 2004	:	Customer No. 27557
For: SYSTEM AND METHOD FOR CONTROLLING AN IMPACT TOOL	:	Art Unit: 3721
	:	Examiner: N. C. Chukwurah

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the December 1, 2005 Office Action, Applicants request a pre-appeal

brief review. A Notice of Appeal, Petition for Extension of Time, and the associated fees are

submitted herewith. Please see the Remarks beginning on page 2 of this paper.

REMARKS

In the Office Action, claims 1-3, 7-13 and 17-23 are rejected under 35 U.S.C. 102(b) as allegedly being anticipated by U.S. Patent No. 6,311,786 to Giardino et al., and claims 4-6, 14-16 and 24-26 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Giardino et al.

Applicants respectfully traverse the rejections over Giardino et al. because Giardino et al. fails to disclose, teach or suggest the step of fitting an equation that approximates a signal by selecting a mathematical expression from a set of mathematical expressions. Each rejection is addressed in detail below.

Claim Rejections 35 U.S.C. 102(b)

Claims 1-3, 7-13 and 17-23 stand rejected under 35 U.S.C. 102(b) as allegedly being anticipated by U.S. Patent No. 6,311,786 to Giardino et al. However, Giardino et al. fails to disclose, teach or suggest determining torque including the step of fitting an equation that approximates the time-amplitude waveform of the torque pulse by selecting a mathematical expression from a set of mathematical expressions, as recited in independent claims 1, 11 and 21. The claimed invention not only requires multiple expressions, but also requires the ability to select one expression from the multiple expressions. In contrast, Giardino et al. teaches using a single predetermined equation (col. 4, line 11) when determining torque, and not one selected from a group of equations.

As described in Applicants' specification at page 10, lines 17-20 and page 11, line 19 – page 14, line 13, the equation used in the claimed invention is selected from a number of possible equations or mathematical expressions using a curve fitting function to determine the most appropriate expression. That is, the impact tool controller must first fit the data to a number of different equations to find the best one that approximates the specific pulse

waveform detected for the threaded joint before the controller can determine the torque. The equation fitting process is done in real time, i.e., until the pulse waveform data are collected and the equation fitting process is complete, the actual equation to be used for calculating torque is unknown. This approach takes a number of different fastening process parameters into account (page 11, line 21 – page 12, line 4) to arrive at a more complete conclusion about the pulse waveform. This takes into account that there are variations between fasteners and their tightness after assembly.

In contrast, Giardino et al. teaches using a single pre-determined equation (col. 4, line 11) for calculating torque. More specifically, the equation used is the impact pulse I defined as the integral of the pulse waveform, as described in col. 3, lines 60-63 and col. 4, lines 7-19. Thus, torque is <u>always</u> determined by the formula T-(Ir)/dt (col. 4, line 40) and impulse I is <u>always</u> calculated as $I = \int F dt$ (col. 4, line 11). In other words, the equation taught by Giardino et al. for the impulse I is not selected from set of mathematical expressions, as recited in the claimed invention, because the same equation for determining impulse I is always used, and thus there is no set of mathematical expressions. Thus, Giardino et al. assumes that all of the information required to accurately determine torque is contained within an single equation, that is the integral of the pulse waveform, and does not account for variations in fastener tightness, distortion in the torque to magnetic field or magnetic field to electrical signal. Therefore, Giardino et al. teaches neither multiple mathematical expressions nor the ability to select one expression from the multiple mathematical expression.

As best understood, the Examiner appears to suggest that Giardino et al. inherently discloses the claimed invention because it is "capable of having more preprogrammed sets of mathematical torque expressions." However, neither evidence nor rational is provided to support that assertion. "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference,

and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'" *In re Robertson*, 169 F.3d 743, 745, 49 U.S.P.Q.2d 1949, 1950-51 (Fed. Cir. 1999). The Examiner has provided no evidence that the step of selecting a mathematical expression from a set of mathematical expressions is necessarily present in Giardino et al.

Anticipation requires that every limitation of a claim must identically appear in a prior art reference. See *Gechter v. Davidson*, 43 U.S.P.Q. 2d 1030, 1032 (Fed. Cir. 1997). It is clear that the limitation of a fitting an equation by selecting a mathematical expression from a set of mathematical expressions does not identically appear in Giardino et al. Absence from the prior art reference of any claimed element <u>negates</u> anticipation. See *Rowe v. Dror*, 42 U.S.P.Q.2d 1550, 1553 (Fed. Cir. 1997).

Therefore, in view of the above, Applicants request reconsideration and withdrawal of the rejection under 35 U.S.C. 102(b), and allowance of independent claims 1, 11 and 21.

Dependent claims 2-10, 12-20 and 22-26 are also believed allowable for the same reasons as discussed above. Moreover, these claims recite additional features not found in Giardino et al. For example, claims 2 and 12 recite that the equation/mathematical expression includes a parameter selected from a list of parameters. The passage in Giardino et al. (col. 4, lines 20-25) cited in the Office Action merely references t_f and discloses buffering data so that data points immediately before and after the impulse I are captured, and does not relate to the parameters recited in the claims.
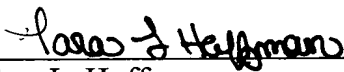
Claim Rejection 35 U.S.C. 103(a)

Claims 4-6, 14-16 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Giardino et al. As discussed above, Giardino et al. fails to disclose, teach

or suggest all of the limitations of independent claims 1, 11 and 21. Therefore, dependent claims 4-6, 14-16 and 24-26 are allowable for the same reasons. Moreover, these claims recite additional features not found in Giardino et al. For example, claims 4, 5, 14, 15, and 25 recite specific equations not found in Giardino et al. Moreover, the Office Action provided no motivation to modify Giardino et al. to use the equations of claims 4, 5, 14, 15, and 25 as required to establish a prima facie case of obviousness.

Accordingly, Applicants request reconsideration and withdrawal of the rejection under 35 U.S.C. 103(a) and the allowance of claims 4-6, 14-16 and 24-26.

In view of the foregoing, Applicants' believe the application is in condition for allowance. Prompt and favorable action is therefore respectfully solicited.

Respectfully submitted,

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Dated: May 1, 2006